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FARM INDEX

U. S. Department of Agriculture
May 1978

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A 10-Year War on "Hunger U.S.A."



Outlook

Retail food prices are running at a faster gait than predicted early in the year, but the pace is slowing.

As for the year as a whole, shoppers can figure on shelling out 6 to 8 percent more than in 1977, according to the March estimate. USDA's previous forecast—calling for a hike of 4 to 6 percent—was upset by stronger-than-expected price spurts early in the year, combined with a bleaker outlook for pork production.

Less beef, costing more. At the red meat counter, you can expect smaller beef supplies and larger price tags. The retail price of Choice grade cuts this year could top the 1977 average by over 10 percent . . . hamburger prices, even more. Pork prices will be up there, too.

For poultry, supplies are heading up, but prices are expected to trend moderately higher because of reduced competition from other meats. Broiler production is seen 6 to 8 percent above a year ago throughout 1978. That could mean a new peak for chicken consumption (broilers account for nine-tenths). Last year's weighed in at 44 pounds per person, of itself a record.

Cheery forecast for egg eaters. Prices to roll down in coming months and to average under last year's during most of 1978. For the first time in years, egg consumption won't drop in 1978. Last year we broke 272 eggs per person.

At the dairy section, your bill could grow 4 to 6 percent. Farmers are getting higher support prices, and marketing costs are going uphill. Cheese demand in 1978 will stay brisk . . . small increase expected for consumption of fluid milk and cottage cheese . . . little change for

ice cream . . . some gains for other frozen dairy products.

Climbing fruit prices. On the fruit scene, fresh and processed items will cost more than a year ago. The 1977-78 citrus crop is down, and prices for fresh oranges and frozen concentrates are feeling the squeeze. Same story for apples and pears, at least till the summer harvest comes in. Raisins and prunes, by contrast, are more abundant this year, as are frozen fruits.

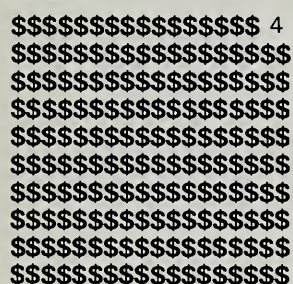
Although there's no shortage of vegetable oils, salad fans will have to pour out more for their dressings this year. Production of soybean, cottonseed, and sunflower oils is larger than in 1977. But retail prices of food fats in general are still climbing.

Moderately higher prices are in prospect for cereal and bakery products. Wheat prices have been rising from last summer's lows, and higher costs for processing and marketings will add more to the tab.

Coffee or tea? Coffee will be a better buy this year, but it's no party for tea. Coffee prices have been weakening since June 1977, and the trend will continue, considering the snapback in world production predicted for 1977-78.

The prior surge in coffee prices spilled over into tea, causing consumers to switch to the lighter beverage. Tea demand boiled up, as did prices. And despite a record tea crop in 1977, the price spread between coffee and tea remains wide enough to retain the converts. Result: A cup of tea will cost you more.

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Great Expectations . . .

A Story of Farmland Values



How much is farmland worth? The answer is pretty much whatever people *think* it is worth.

More than double talk, expectations—by both prospective buyers and sellers—have a big bearing on farm values. In fact, expectations explain why farm real estate tags have shot up faster during the seventies than the general inflation rate—by 130 percent, actually.

High sights. There are several reasons why the sights have been set so high for farmland.

First, only 3-4 percent of all farmland is transferred each year, thus setting the stage for stiff competition and higher bidding.

Second, most buyers expect farm income to increase over time. And how much of an increase they expect has a lot to do with how much money they're willing to shell out.

For example, let's assume that you've found a parcel of land which you figure will generate \$80 a year after-tax income for each acre. And let's say you're look-

ing for a 6-percent net return on your investment (over a 20-year period). With any income growth or land appreciation aside, you would probably be willing to bid \$1,333 an acre.

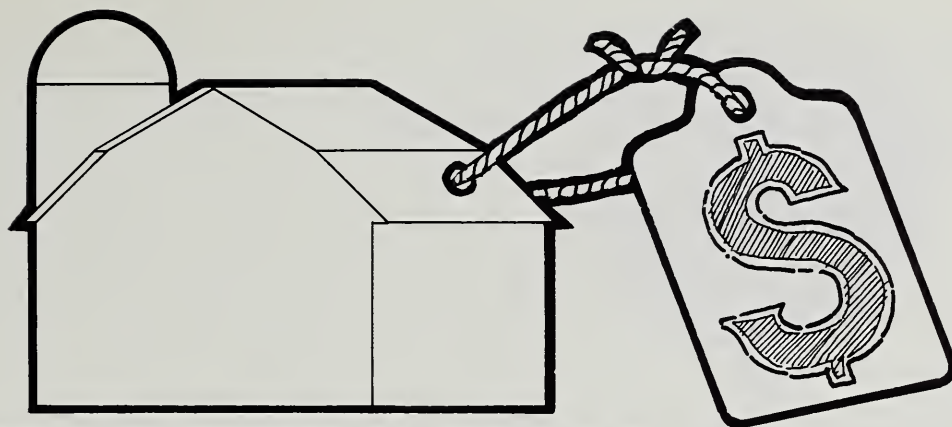
But let's say that you *do* expect that income will increase. In this case, your bid goes up. If you're looking for an annual growth in income of 2 percent, you could pay as much as \$1,591 an acre; for a 5-percent growth rate, you could up to \$2,108.

Figuring capital gains. Still cheap for good farmland? There's a matter of capital gains on lands—a factor which most purchasers swear by.

This steadfast belief in rising land values has been aptly summed up by one lender in a recent *Agri Finance* article: "The price of farmland will continue to rise despite economic theory and crisis indicators, as long as there are more people who *believe* land prices never will fall than there are farms for sale."

However, a relatively small change in expectations can have a dramatic impact on land values. Let's go back to that piece of land worth \$1,333 an acre. Putting income gains aside, the value of the land jumps to \$3,047 an acre when a 5-percent annual land appreciation rate is assumed. With only 4-percent appreciation, the figure drops to \$2,242—more than \$800 per acre.

Income plus appreciation. Nevertheless, if you expect both a growth in income and land value over time, the price really goes up. Take that \$1,333-per-acre land. If you're banking on a 3-percent annual rise in income and a 5-percent gain in land values, you're looking at \$3,984 an acre.



Farm Real Estate Update

It is thus obvious that expected capital gains account for a big share of current land values. But there's one hitch: Capital gains don't mean cash to meet loan payments—capital gains are only realized when the land is sold.

Therefore, farmland purchases are often limited to buyers with large financial reserves or else a hefty income from other sources. This often leaves out the younger would-be farmer.

There are good reasons to believe that expected net income and expected capital gains are interrelated. For example, if net farm incomes are high, buyers are more inclined to bid up the price of land, in turn upping the inflation rate.

Tenuous relationship. Not so in recent years, however. The relationship has been tenuous, to say the least.

From 1967 to 1972, net farm income and land values went up at about the same rate. In 1973, income shot forward, only to fall steadily since. Land values, on the other hand, have continued their upward climb.

So despite declining income, expectations have remained high for farmland. The rationale behind this is sometimes referred to as the "greater fool theory." That is, buyers *expect* to always be able to sell an asset for more than they paid for it.

Then too, many people view the farm income slump as a temporary one, tied to the current large grain stocks. In the longer run, the situation looks more promising as world population increases and arable land potential declines.

[Based on the manuscript, "Farmland Values and Inflationary Expectations," by David Lins, National Economic Analysis Division, at the University of Illinois, Urbana.]

The latest news from USDA is that although farmland values remain strong, the rate of increase has slowed.

As of this February, land values had increased an average of 9 percent over the past year. Compare that with a 17-percent gain the previous year, and 14 percent the year before that.

The rise pushed the average value of an acre of farmland from \$450 to \$490. (Keep in mind that this includes *all* farmland; premium cropland would be worth much more.)

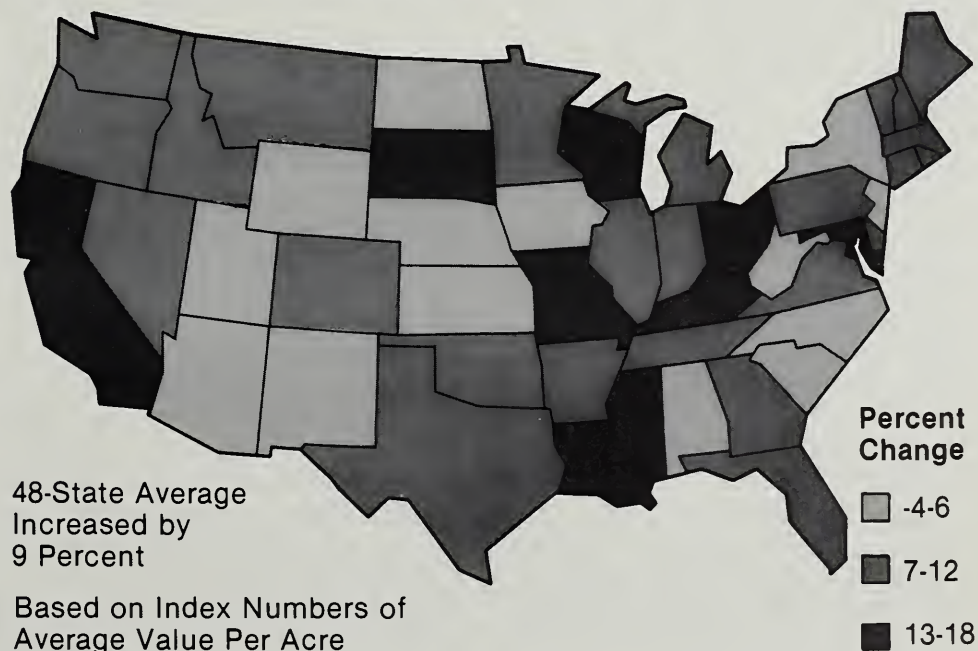
Major increases were not confined to any particular part of the U.S. States

with the steepest gains—13 percent or more—included Wisconsin, South Dakota, Maryland, Mississippi, Louisiana, Missouri, Ohio, Kentucky, and California.

Nebraska was the only State showing a decline. However, in the last 3 months of the period, land values moved down slightly in four other States. Kansas, New York, and North Carolina registered decreases of 1 percent, while values were off 2 percent in West Virginia.

[Based on USDA press release #846-78, issued March 23.]

Percent Change in Average Value of Farm Real Estate Per Acre February 1977 - February 1978



A Sunny Future for a Seedy Flower



Mention sunflower seeds and most of us think of bird feed or those things kids crack between their teeth. But to the Russians and Europeans, sunflower seeds mean oil or protein-rich meal.

So why the difference? It has to do with varying things such as the costs and properties of competing crops, existing technology, and cultural preferences. As to the sunflower itself, it's not too particular where it grows—it can flourish in either northern or southern climes.

In fact, it's a native plant in the U.S., thriving quite abundantly in the Plains States. But up until the past decade, it was considered at best by most farmers as an attractive field flower, and at worst, as a troublesome weed.

Relative upstart. It was only in 1967 that our country commercially produced the oilseed sunflower. Although we did a lot of research on the sunflower prior to that, we were unable to make it

economically feasible as an oil crop. However, after the Soviets—using our strains—had a genetic breakthrough and doubled the oil yield, American farmers went into production.

And since that time, the crop has been increasing in popularity, with a big spurt last year. Output for 1977 topped 1.2 million metric tons, over 2½ times the year before, and more than twice the 1975 record.

The figures are for the four major producing States of Minnesota, North Dakota, South Dakota, and Texas. Total U.S. production is estimated at 17 percent above.

Area planted to sunflowers was up for 1977, too—nearly 2.2 million acres, more than double the year before. However, bigger yields helped make the boost in output possible. And these resulted from a widespread shift to hybrids having 25-percent greater yield.

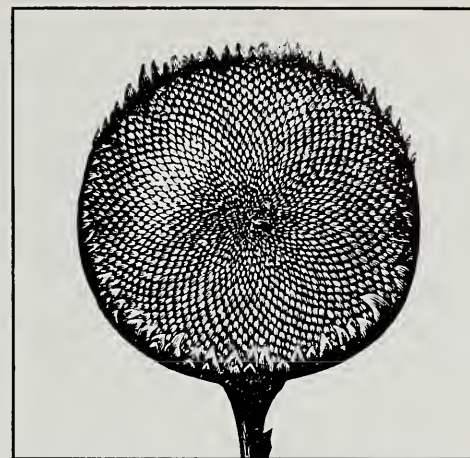
Oilseeds lead. The hybrids were of the oilseed variety, which account for 90

percent of U.S. production. Only 10 percent of the sunflowers grown were not oilseed types. A seeming paradox, since American consumers are more aware of the nonoilseed uses.

However, of the sunflowers grown in this country for oilseeds in recent years, about 70 percent went abroad—in the form of seeds to foreign crushers. Major takers were the developed countries of Europe.

The nonoilseed production remained here at home. About 40-50 percent of it was roasted and sold as snacks or “nuts”—both as kernels and in the hull—with the remainder going into bird and petfood. (The animal food market also uses some oilseed sunflower.)

Black gold. Although nonoilseed production has been increasing and American consumers are munching more and more seeds—whether for pleasure or as a “health food” craze—the sunflower's future lies in oil.



On a worldwide scale, sunflower seeds are potentially a major supplier of oil, since the seed derives 75 percent of its value from the oil.

If the world looks to increase its food production, some oils receive little attention since they are merely by-products and thus depend upon demand of the primary product. Such oils are cottonseed oil, corn oil, lard, and tallow.

In the limelight. However, three oils that would be in the limelight are soybean oil, palm oil, and sunflower oil. Of course, soybeans, with the highest protein yield of any of the three, might receive priority. In fact, the big increase in world fats and oils consumption in recent years has come mainly from soybean oil. This oil accounted for over a fifth of the world's total fats and oils in 1976.

But then, there are other things to consider—such as where and how the crops grow. For example, the oil palm, although the highest yielder of oil, is a tropical plant. Therefore, it is limited geographically—to a rather narrow band around the Equator. Too, there's a 4-year lag in production from when the tree is planted until the first harvest.

Flexible flower. Soybeans and sunflowers, on the other hand, grow in temperate zones, but sunflowers are the more adaptable. In fact, of the major economic crops, the sunflower is among the most flexible, being grown over greater latitudes, with less rainfall, and a shorter growing season. It can even be double cropped.

World demand for fats and oils is on the increase—at the rate of more than a million metric tons a year. And over half of this demand is being met by annual field crops, including soybeans, sunflowers, peanuts, rapeseed, and

sesame. The composition of this group may expand or contract markedly from one year to the next, depending upon such variables as weather and competing prices.

Varying demand. Demand for fats and oils varies by region: West European countries consume at least 66 pounds per capita; Asian, 11 pounds; and African, 4 pounds. In other words, the more developed the country, the higher the oil intake. Therefore, as economic conditions improve in the developing countries, so does the outlook for fats and oils.

Herein lies a vast market potential for sunflower oil.

The type of fats and oils consumed also varies, often hinging on what's produced locally, or cultural preferences. For example, in 1971, 75 percent of the fats and oils consumed in Japan and the U.S. were of vegetable origin. In the Netherlands and Yugoslavia, only around half was vegetable oil. Near the extremes are New Zealand, with only 10 percent of its fats and oils of vegetable origin, and Spain, getting almost 90 percent from plants.

Now let's look at who in the world produces sunflowers.

U.S.S.R. in the lead. By far, the leading producer in 1977 was the U.S.S.R., harvesting 54 percent of the world's crop, or 6.5 million metric tons. The U.S. was in second place (for the first time), with 10 percent of the total, followed by Argentina, 8 percent, and Romania, 6 percent. Other leading producers in order of output were South Africa, Yugoslavia, Turkey, Bulgaria, Spain, and Australia.

Back at home, fats and oils consumption is on the rise, with vegetable oils overtaking animal fats. In 1956, we ate

as much animal fat as vegetable oils, but by 1976, the scales had tipped to vegetable oils, with over 82 percent of the market.

Vegetable oils No. 1. Given the fact that American consumers overwhelmingly prefer vegetable oil to animal fats, there's a good market potential for sunflower oil. So let's look at how this oil could fit in.

First of all, soybean oil poses stiff competition. Its price is favorable, and it's often available as a result of meal production for livestock feed. (Unlike other oilseeds, the soybean's meal is more valuable than the oil, accounting for 60 percent of its worth.)

Soybean oil has a formidable toehold in the U.S. food fat market—60 percent of all fats and oils. But even the soybean's market share is subject to fluctuation, since many of the vegetable oils have a high degree of interchangeability.

Pluses and minuses. Sunflower oil is considered a "high grade" food oil, which is both a plus and a minus in its struggle in the marketplace. Its high quality makes it more expensive than many other fats and oils. But then, it's this very quality that gives it an edge over other oils in some areas.

Take shortening. The food fats used in producing shortening vary annually and are highly dependent upon the price of the finished fat or oil which has been refined, bleached, deodorized, and hydrogenated. Therefore, lower quality food fats such as palm oil, soybean oil, lard, and tallow usually edge out sunflower oil because they are lower priced. (Of course, animal fats are ruled out in vegetable shortening.)

Fast-food ticket. Although sunflower oil is hardly denting the shortening market, the southern-grown, more saturated

sunflower oil is making some inroads into cooking oil. And its main ticket has been the rapidly expanding fast-food and snack industries. Reasons are: (1) The oil holds up well under repeated frying and doesn't develop off-flavors, as soybean oil sometimes does; (2) less oil is absorbed by products fried in sunflower oil than when fried in most other vegetable oils; and (3) products fried in sunflower oil reportedly have a longer shelf-life than some other fried foods.

The potato chip industry currently uses a standard frying oil mix of 70 percent cottonseed, 30 percent corn oil. With declining cotton production and rising prices, sunflower oil has an excellent chance to penetrate this industry. In fact, in a taste test, a panel consistently scored the chips fried in 100-percent sunflower oil above those fried in the traditional mixture.

Home oil use. A somewhat smaller cooking oil market exists for sunflower oil produced from the northern-grown sunflower, which is high in polyunsaturates. That's the home oil market.

Some consumers prefer to fry their foods in a polyunsaturated oil for dietary and health reasons. Only this past year did sunflower oil appear on regular supermarket shelves for this purpose—until then, sunflower oil devotees had to visit a "health food" store. Strong competitors are safflower and corn oil.

As a salad oil, northern-grown sunflower oil has excellent acceptance, particularly among diet-conscious salad nibblers. It is highly polyunsaturated and quite nutritious. It is also used in premium mayonnaise and salad dressings.

Cottonseed oil is still the No. 2 salad oil, but its use is declining. Sunflower

could pick up on some of this market. Chief competitors are, again, safflower and corn oil.

Premium margarine. Sunflower oil from northern-grown seed has also entered the margarine market, as a "premium" product. Since it is so high in polyunsaturates and of excellent quality, some consumers have been willing to pay a premium price for it.

Along these lines, the market potential for highly saturated vegetable oils, such as coconut and palm oil, is not as promising as a few years ago, due to health concerns over cholesterol. Some institutions have even gone so far as to limit their use, as has USDA's School Lunch Program. A boon to polyunsaturates, you might say.

Industry market dry. Due to its high quality as an edible oil, and hence its ability to command a higher price than some other fats and oils, not much sunflower oil makes its way into industrial uses. However, there might be a market for the highly unsaturated sunflowers (northern-grown) as drying oils. Not only does this type of sunflower oil have good drying properties, but it doesn't yellow with age as does linseed oil. Safflower oil would be the major contender.

The other 25 percent. And what about sunflower meal—the other 25 percent of the value of sunflower seed?

Of all the protein meal produced in the U.S. in 1976, sunflower meal only amounted to less than 1 percent. The meal was used as livestock feed, mainly for cattle.

Sunflower meal is a rather new feed ingredient in North America, but in some countries, such as the U.S.S.R., it is standard fare. The meal itself is fairly protein rich—about 44 percent protein

when made from the kernel, and 28 percent from the whole seed.

As a protein meal for humans, though, there is a major drawback. Thanks to a certain compound, sunflower flour can change from white to beige, to green, to brown—a trait not likely to be appreciated by consumers.

However, if this chemical difficulty can be ironed out, sunflower flour has very desirable properties that could well rival the soybean protein flour which now has a corner on the vegetable protein market.

More research. As well as product research, further research is needed on growing the sunflower itself. For example, hybridization has merely scratched the surface of the genetic possibilities. More breeding is needed to develop increased seed production per acre and higher oil content as well as better disease and insect resistant strains.

Other areas needing research are: (1) how best to treat or avoid insect and disease infestation, and (2) how to keep birds from feeding on the highly desirable bird seed when it's maturing in the field.

Also, the sunflower's economic potential as an alternative crop needs to be looked into further, particularly in areas where flax and cotton are declining. Oilseed crushers in such areas are often looking for other oilseeds to crush.

For example, take the four major producing States: Minnesota, North Dakota, South Dakota, and Texas. The three Red River Valley States went into sunflower production as the demand for flax dwindled. In Texas, the sunflower has replaced some cotton.

[Based on the manuscript, "Future of Sunflower as an Economic Crop in North America and the World," by Harry O. Doty, Jr., Commodity Economics Division.]

Order in the Market



In the continuing search for new ways to make agricultural supply and pricing responses more efficient and less disruptive to the economy, one old way keeps popping up: the use of marketing orders.

They've been used for nearly a half century to control amounts marketed—and in turn make price changes less volatile—for some commodities.

The history of marketing orders shows they can be effective in limiting the effects of oversupplies of farm products, thus enhancing farm income, under certain conditions.

Experts have learned after years of working with marketing orders that they operate best when the climate is right, such as:

- When the supply of the commodity under order is in a compact area.
- When there's an industry structure that allows an order to operate fairly simply and directly.
- When the commodity in question can't be easily replaced by users with one that may be bought at better terms, such as one feed grain being substituted for another.
- When the supply for the short run, perhaps a season, is "inelastic"—meaning it's difficult to adjust quickly.
- When growers want a program with "self-help" features. Without farmer cooperation, marketing order programs cannot be effective.

History lessons. The experience with the marketing order concept goes back to 1933 and the Agricultural Adjustment Act.

These rules were written to bring some control to a Depression-caused supply chaos. Farm prices were extremely low and commodity supplies swung wildly from season to season.

The new law established that

handlers of milk had to pay a minimum price for milk used for fluid sales. For products other than milk, orders could establish nonprice terms—for example, quality or volume limits on shipments.

Oranges, for instance. If oranges from a certain production area are under a Federal marketing order, regulations issued might specify that those oranges entering interstate commerce must meet stated grade and size minimums and that shipments per week may not exceed a maximum level.

For milk, only fluid milk for bottling is under orders; some 47 orders are out for milk, covering about 80 percent of the Nation's production. According to a 1975 interagency report, "The characteristics of milk production and consumption are such that prices which reflect the supply and demand cannot remain static. Frequent changes are consequently necessary in order to reflect changing economic conditions..."

Not production controls. The report, *Price Impacts of Federal Market Order Programs*, goes on to say, "Federal orders do not determine or control the uses of milk, that is, the product forms in which it is eventually utilized." The prices specified in the milk orders for fluid milk, the report states, do influence the quantities used, of course, but limits are not listed in the orders.

Participation in marketing orders can shift greatly from region to region for certain crops, depending on what special problems exist in various growing areas.

Marketing orders once enacted are mandatory and affect all users who fall under its provisions.

Limitations. Commodity provisions of a marketing order are the same as those in marketing agreements, which are volun-

tary and rarely used, but orders may be issued only under certain conditions:

- When two-thirds of the producers, or those who turn out two-thirds of the volume, approve an agreement.

- When the U.S. Secretary of Agriculture finds that an order is the only way to carry out the orderly marketing of the commodities in question, as specified in Federal marketing law.

Federal orders may be issued only for certain products, as listed in the revised law, the Marketing Agreement Act of 1937 (later amended). These include milk, most fruits, vegetables for fresh market and some processing vegetables, tobacco, soybeans, hops, honey, naval stores, turkeys, and turkey hatching eggs.

Wide variety of products. Over the years, Federal and State orders have been in effect for a variety of agricultural products, from milk to potatoes, from onions to cantaloupes, from celery to pears. Today, the only Federal orders in effect are for fruits, tree nuts, vegetables, hops, and milk.

Sometimes, an order will apply to only one commodity, such as milk. Other times, one order may be issued that covers several commodities, such as one covering several California fresh deciduous tree fruits.

Many State orders are in effect, especially in California, although State orders differ in some respects from Federal orders.

For example, State orders often do not contain specific language regarding grower prices and the intent of the order, while Federal orders are required to have that specificity. Thus, Federal orders are often more restrictive than State orders.

Eligibility differences. Another difference is in the products eligible for Federal marketing orders. While Federal law lists those commodities eligible for orders, State orders have no such limitations. In California, for example, any agricultural product is eligible for State marketing orders.

Frequently, State and Federal orders work in tandem. For instance, a California order for raisins provided for promotion, advertising, and research, while a Federal order, at the same time, provided for volume and quality control. Such cooperation between State and Federal agricultural programs is not unusual.

These cooperative ventures, along with those involving only Federal or State orders, seek to provide solutions to the complex problem of balancing supply and demand for agricultural products.

Not panaceas. Such orders are not cure-alls. They are important tools, but they have limitations.

Besides history's lesson that orders work more effectively with some farm products than with others, their usefulness dims if growers and handlers are not fully behind them.

And, there are the Federal limitations on which products may be controlled by marketing orders.

Long-term solutions to general commodity supply problems are unlikely if marketing orders are the only tools used. Inevitably, permanent adjustments by the industries involved will have to be made if the problems are to "right" themselves.

[Based on special material from Kenneth R. Farrell, Acting Administrator, and Alden C. Manchester, National Economy Analysis Division.]

Is There Strength in Orders?



With many of the Nation's farmers suffering because of low commodity prices and glutted marketplaces, marketing orders are suggested by some as a way to shore up farm incomes. But there's some question about how much marketing orders can do toward that end.

The main reason for having them is to insure coordinated market activities at the producer and first handler stages of the marketing process. If the peaks and valleys in the supply charts can be leveled out, the theory goes, farm incomes will be enhanced.

To do this, many marketing orders use grade and size restrictions—effectively eliminating lower grade and smaller size commodities from the market, thus shrinking the available supply somewhat.

In fact, grade and size (quality) limitations are the most commonly used form of market orders, widely applied to noncitrus fruits and vegetables for fresh market.

Such restrictions may help shave the peaks and fill in the valleys, but they usually do little to enhance farm prices. According to a study by a USDA interagency task force, the number of commodities that have had prices boosted by marketing orders with

quality restrictions are greatly overshadowed by those commodities that haven't been helped that much.

The study, *Price Impacts of Federal Market Order Programs*, says other economic forces stand in the way of price enhancement when quality restrictions are used.

For one thing, if quality regulations restrict the quantity flowing to fresh market, minimum grade and size limitations would have to be changed from year to year depending on production.

For example, if the Florida orange marketing order was used to limit the orange supply to fresh market, more than 92 percent of total production would not be affected because only about 8 percent actually enters the fresh market. The rest gets processed.

So, the influence on production in that case would be minimal, as would price enhancement.

Futhermore, most fresh products under orders face competition from other commodities. A hugely complicated marketing order system would probably have to be developed to prevent too-large production to be shifted from the product under an order to a competing product not under an order.

For instance, if retail prices for those

fresh oranges get too high because of marketing orders, people will probably turn to another fruit, or to processed fruit, creating a surplus of expensive oranges.

The task force found a significant price enhancement potential for only two commodities under grade and size marketing orders: ripe (black) olives and tomatoes for fresh market.

For ripe olives, price enhancement potential is substantial because the order applies to all U.S. production, and there's no real substitute commodity. Some 99 percent of the U.S. ripe olives grown in California—the major producing State—are processed, which explains why the olive order does not apply to fresh market.

The marketing order applying to fresh-market tomatoes affects those winter tomatoes grown in Florida. Their main competition is from imported fruit from Mexico, and the grade, size, and other quality limitations apply to the imports also. So, as with olives, substitutions are limited, and if the order restricts supply, it may be more effective.

[Based on special material from Alden C. Manchester, NEAD.]

A 10-Year War on "Hunger U.S.A."

Are some Americans still suffering from hunger, despite the billions of dollars spent each year in Federal food assistance efforts?

While ESCS researchers stop well short of declaring that hunger has been vanquished from the world's wealthiest Nation, they have found evidence that a decade-long national attack on hunger has at least reduced the extent of the problem.

Only a decade ago, many Americans were shocked to find that hunger not only continued to exist, but that its effects were felt in one-fifth of all U.S. households—those which were found to subsist on "poor diets."

The eye-opening study by the Citizen's Board of Inquiry into Hunger and Malnutrition in the United States (CBHM) was entitled "Hunger USA." In the study, people in 256 counties were found to be living in such distressed conditions that their counties were designated "hunger counties."

Addressing the problem. After this and other studies brought hunger to light, several remedial programs were quickly instituted.

One yardstick to indicate the national reaction to hunger disclosures is the total Federal expenditures for USDA food and nutrition programs. In 1969, total aid was slightly more than \$1 billion. By 1976, the total exceeded \$7.8 billion.

Of course, as critics quickly note, dollars alone do not weigh the success of the programs.

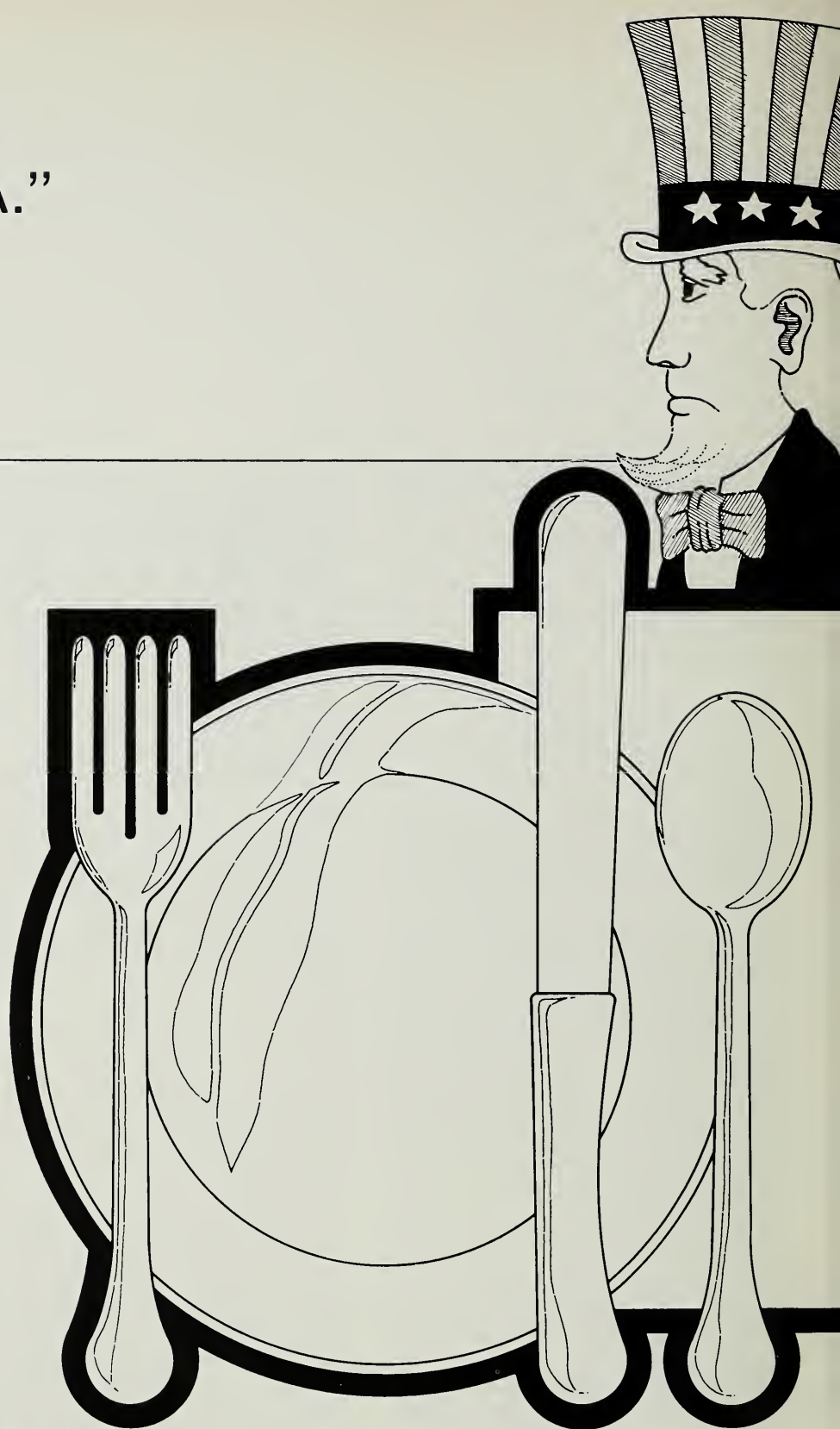
In fact, the Government has often been accused by some of "throwing dollars at problems" instead of seeking better ways of solving them.

With this in mind, the question becomes: Have the programs worked to relieve the hunger problem?

Dollars on target. While allowing that hunger continues to exist, ESCS researchers have found that food assistance dollars have been distributed successfully to the counties identified in 1968 as having hunger problems. And, further, these expenditures appear to have resulted in an increase in per capita food sales in these "hunger counties."

To put it in another way, people in designated "hunger counties" are receiving substantial sums of Federal food aid, and they are acquiring more food with it.

The researchers stop short of concluding that hunger has been eliminated, since there is no evidence to indicate whether aid is reaching the neediest people within these counties, or





even if the dollars distributed are sufficient to feed all who are hungry.

A hard look. And it isn't easy to look at hunger in perspective. Even defining "hunger" raises debate, since it is clearly a condition of degree. It may be a craving for food, a weakened condition from a lack of nourishment, or a yearning stemming from a self-denial such as a diet or fast.

The effects of hunger, then, range from temporary discomfort to death.

The CBHM defined hunger as "a condition where people are forced to go days each month without one full meal." Although still somewhat arbitrary, the definition does allow for measurement. Perhaps equally essential for a workable policy definition of the hunger problem, it contains the element of force, and it

incorporates (through frequency) the concept of degree.

With a definition in hand, the next step is to obtain data to determine just which—and how many—American families meet the criteria.

Data problem. In that task, ESCS researchers concentrated on using aggregate data from counties. They were hampered—as were the CBHM authors—by a lack of new data sources.

The need for better data on hunger may soon be met with USDA's Nationwide Food Consumption Survey (NFCS), which is being conducted now. The data from the survey, which will be available next year, should enable researchers to more closely establish the dimensions of America's hunger problem.

Even if the dimensions of hunger can't yet be measured definitely, the likelihood of its existence can be monitored through contributing factors.

Three factors. This, in fact, provides the framework for the ESCS analysis, which concentrates on three factors: (1) lack of resources with which to buy food, (2) lack of access to food outlets or food production resources, and (3) lack of knowledge about food availability or food selection.

Lack of resources. The U.S. food distribution system is market oriented: Money is exchanged for the food desired. People with little money are in a poor position to acquire food. Yet, since it is a necessity for survival, food purchases are first priority in allocating expenditures, so the poor spend a disproportionately high percentage of their income on food.

With this in mind, researchers can use data on the portion of income spent on food by class to help pinpoint potential

hunger. Here's the way it works:

Minimum food cost. During 1973-74, USDA estimated that the minimum cost for a nutritionally adequate diet for an American family of four was \$150 per month.

The income group earning less than \$4,000 (pretax) in that period accounted for slightly more than 15 percent of all food expenditures, even though they earned only 6 percent of the total income and comprised a little more than 18 percent of the population.

In all income categories but the highest and lowest extremes, the percentage of population in that group is roughly equivalent to the total food expenditures made by that group. Food, then, is a top-priority purchase. Households in the lowest income group spent 40 percent of their resources to acquire it.

Weekly expenditures. On a weekly basis, per-person expenditures ranged from \$10.24 in the lowest income group to \$15.02 in the highest, that spent only 10 percent of their income on food.

Lack of access. Even with purchasing power at hand, a consumer must be able to reach market outlets to buy food. Lack of access can be a severe problem to those living in remote areas, such as on Indian reservations, in the impoverished areas of industrial cities, and among the elderly and some children.

Recent data indicate a trend toward declining supermarket sales capacity in central cities, compared with growth in suburbs. Availability appears to be more of a problem in poor neighborhoods.

Lack of knowledge. Americans are, of course, free to use their purchasing power as they choose. Unfortunately, many seem to be hampered by a lack of knowledge about nutrition. That means

they can be getting an inadequate diet, even when they can afford a good one.

Selection problem. For example, some food stamp program participants, just like other shoppers, may choose to select high-cost, low-value convenience foods instead of purchasing the more nutritious foods.

Educational level appears to be an important factor influencing food choices. Data from 1955 and 1965 Household Food Consumption Surveys indicate that highly educated homemakers spend more, on the average, for food per person in the household. These shoppers are more likely to select more milk, fruits, and vegetables than flour, cereals, and dry beans.

Education, not income, seems to be the primary determinant, since these differences held true within each income class.

Poverty contributes. The lack of information about food selection and preparation is aggravated by poverty, since access to information often costs money. A 1958 survey found that among low-income households, information about food costs and quality usually came from friends or relatives. A fourth of those households had no newspaper that regularly carried food advertising.

Armed with such "hunger indicators," the Government has developed several programs to eliminate or reduce the impact of hunger in America. The indicators have been used to identify target groups for aid.

The programs are then designed to address the very indicators that focused attention on the targeting group. In other words, programs attempt to treat the "disease" by relieving the "symptoms."

Thus, hunger itself is very rarely a criterion for participation in food aid programs. Instead, the programs combat hunger-causing agents, such as lack of money, access, and education.

USDA efforts. USDA has been operating specific food assistance programs since 1935. Earlier emergency food distribution efforts have expanded into a family of related programs.

Until recently, the programs existed primarily to relieve farm surpluses and bolster farm income—although humanitarian aid resulted. Since the late 1960's, the emphasis has been changing, with aid to farm incomes becoming secondary.

In 1967, according to "Hunger USA," food programs reached "18 percent of the 29.9 million poor," or 5.4 million. Today, more than 15 million persons each month receive food stamp assistance alone. Many others are helped through other programs, such as the child nutrition programs.

Reaching the neediest. While the amount of aid has dramatically increased, its value to those who need it most is nil unless it reaches them. With this in mind, researchers sought to determine just where the hungry people are, and whether food assistance dollars are going to those areas. The premise is that if the funds are being used effectively, per-person food aid expenditures should be greater in needier areas.

The ESCS study, then, chose the postnatal mortality rate (PMR)—death rate among newborn infants—as an indication of hunger. Counties with the highest PMR were designated, and also those with the lowest. A third group of counties was isolated by selecting the 50 counties with the highest PMR rate



from among the 256 "hunger counties," as so designated a decade ago by "Hunger USA."

Per capita aid soars. In comparing food assistance expenditures among these counties, researchers found that per-person expenditures for four of the major food aid programs within hunger counties soared from \$25.80 in 1969 to \$127 in 1976.

The average increase in all U.S. counties during that period was about \$44. In counties with the lowest PMR, only \$4.25 went to each person on the average in 1969, while \$15.43 went to those in the highest PMR counties.

By 1976, these expenditures had risen to \$29.40 and \$75.23, respectively.

Thus, by these indicators, food assistance expenditures are being funneled into the "hunger counties."

To follow the trail of food assistance dollars to their end effect, the researchers then sought to determine their impact on local food sales to see whether the actual volume of food purchased increased with the additional aid.

Success. The aid appears to have worked. In "hunger counties" with highest PMR, increased Federal expenditures for food stamps and the Supplemental Program for Women, Infants and Children (WIC) bolstered retail food sales. A one-dollar increase in such Federal expenditures increased local food sales between 20 and 30 cents.

In summary, the findings indicate that, while hunger still exists in America, the decade-long Federal assault on this source of human misery seems to be making inroads.

[Based on the report, "An Update on Hunger in America," by William Boehm and Paul Nelson, National Economic Analysis Division.]

An Arsenal of Programs to Fight Domestic Hunger

An array of Federal programs has been developed and refined to battle the affliction of hunger in America.

Here's the lineup:

The Food Stamp Program. Enacted in 1964, it was designed to correct deficiencies of commodity distribution programs by allowing users to buy food through regular market channels.

Most users had to pay part of their income to receive a fixed allocation of stamps. Soon, the purchase requirement will be dropped, making it easier for some to participate. Of course, recipients will get only "bonus stamps." (Bonus food stamps represent net Federal assistance after users meet the purchase requirements.)

The program was plagued with problems in early years that resulted in both abuses and in the exclusion of many very needy families. These problems have now been largely eliminated.

More than \$5.3 billion in bonus food stamps were distributed in 1976, compared with \$228.8 million in 1968.

Child Nutrition Program. This category covers a cluster of programs including National School Lunch, School Breakfast, Special Food, and Special Milk programs.

In 1968, about 20 million children participated in the lunch program, and only 15 percent received free or reduced-price meals.

By 1974, 25 million participated, and 40 percent received free or reduced-price meals. School Breakfast and Special Food Programs have also increased greatly. In 1969, these two

programs spent less than \$7 million, compared with more than \$260 million in 1976.

Commodity distribution. The total value of commodities distributed by the Federal Government since 1968 has held relatively stable, but distribution to needy persons has dropped with the changeover to the Food Stamp Program.

Women, Infants and Children (WIC). This newest food aid program was established in 1972 as the Supplemental Program for Women, Infants and Children (WIC). It is to allow "high nutritional risk" women and infants supplementary aid in buying specified high nutrition food items.

These benefits are considered crucial because low-income pregnant women, nursing mothers, infants, and young children are especially vulnerable to malnutrition. Only \$11.1 million were spent on WIC in 1974, its first year of operation. In 1976, \$140 million were spent.

Nutrition education. To combat the lack of nutritional knowledge as a major contributor to hunger, USDA launched the Expanded Food and Nutrition Education Program in 1969. Operating on a one-on-one basis, the program has concentrated on improving food selection and preparation practices of low-income households.

The program has reached about 20 percent of its target population. USDA is now conducting mass media experiments in several cities to test the use of that approach to nutrition education.

Costs of Using Pesticides

American farmers have boosted output a fifth since 1940, and may stretch it another 20 percent by 1990. Pesticides have played, and are expected to continue to play, an important role in expanding production further, while saving energy in the process.

The use of pesticides—insect and weed killers and other chemicals—jumped from 503 million pounds in 1966 to over a billion pounds a decade later.

A number of questions crop up about switching from labor to chemicals for controlling pests and increasing farm efficiency. For one thing, why are farmers doing it?

A large part of the answer lies in farm production costs. Wage rates increased 126 percent from 1967 through 1977; diesel fuel prices shot up an average 169 percent; but agricultural chemicals were priced only 54 percent more in 1977. Farmers, then, seek to slash costs through pesticides.

Dollars and energy. Along with the dollar savings come energy savings. Even though pesticides are highly energy intensive—most of them are petroleum based—the net result of today's pesticide use is a savings of 450,000 trillion Btu's per year—about four times the energy used to make the pesticides.

These figures are based on the estimate that without pesticides, overall crop production would be reduced by 25 percent, largely because yields would shrink.

Herbicides especially are helping farmers increase efficiency. Their use has rocketed from 112 million pounds in 1966 to 400 million in 1976, and use is expected to rise. Besides cutting economic costs by reducing the labor needed—in an Illinois 10-year experi-

ment farmers had an average return of \$3.30-\$4.89 per dollar spent on herbicides—energy savings are significant.

Saving Btu's. Where mechanical cultivation uses an average 140,000 Btu's per acre, the use of herbicides consumes less than 125,000 Btu's.

Mechanical cultivation uses a half gallon of diesel fuel per acre, and normally, two cultivations are needed to control weeds through a season. But, using 1 pound of herbicides per acre, a farmer need apply it only once per season, under normal circumstances.

So, besides the significant energy savings—important labor efficiencies cut farm costs, and there's less wear and tear on machinery.

Mechanical cultivation has largely been replaced by herbicides, with estimated energy savings of about 20 percent per acre.

Where herbicides really shine, though, is in control of brush on pasture and rangeland. Mechanical controls may take 10 times as much energy as herbicides.

Clear out the pasture. In 1976, some 3.5 million acres of pasture and rangeland were treated with herbicides. Much of that land could not have been used at all without chemical brush control.

The use of pesticides has led to no-till farming, in which labor and machinery are minimized in favor of chemicals to control pests. And even though that means the farmer must use 2 pounds of herbicides per acre, where otherwise 1 pound is often sufficient when used in conjunction with mechanical cultivation, total energy consumption could be chopped by half.

No-till land, according to an estimate in the *No-Till Farmer*, amounted to 5.5

million acres in 1974. By 1990, USDA says, that total could jump to 75 million acres. Altogether, energy savings, thanks to pesticides, could reach 250 million gallons of diesel fuel equivalent.

The pesticide decision. The amount of energy saved with pesticides is not, however, a major factor in whether they should be used. That's because pesticides play a relatively small role in the energy picture.

The entire U.S. food system uses about 17 percent of America's energy. Agriculture takes 3 percent of that, and pesticides account for only one-twentieth of agriculture's energy use.

Translated, that means pesticides used about 118 trillion Btu's in 1976, out of more than 2 quadrillion Btu's for all agricultural purposes.

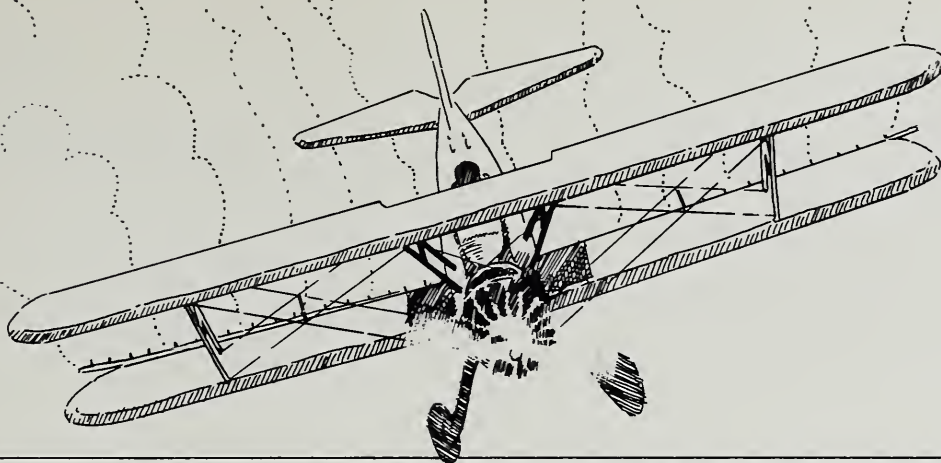
Partners against pests. Herbicides are joined by other pesticides in boosting farm productivity and efficiency:

- Growth regulators reduce the need for hand labor. Nearly all tobacco, for example, is chemically treated to control suckers. That treatment saves 80 to 100 hours of hand labor per acre.

- Cotton harvesting is made easier with the use of defoliants and desiccants. While mechanical harvesting is possible without these chemicals, the quality of the crop would be lowered, and the trash content—weeds, sticks, and so forth—would be greater.

- Insecticides and fungicides are considered essential for successful farming. Alternatives currently available are few, consisting mainly of increasing the acreage devoted to a crop to make up for lost production.

They would be missed. Without insecticides, for instance, losses of vegetables might rise 32 percent, and fruit losses could be up 86 percent.



Disease losses in the absence of fungicides could rise 26 percent for vegetables and 56 percent for fruits.

All these chemicals aid farmers in boosting their productivity. In the 1966-76 decade, when pesticide use increased substantially, productivity for most crops jumped. Feed grain production, for example, was up 41 percent; fruits and nuts rose 44 percent; and cotton was up 43 percent.

For all crops, productivity increased an average 41 percent during the decade, while the number of acres treated with herbicides climbed 107 percent.

Energy users. Still, because pesticides are energy intensive, and because farmers have grown dependent on them,

a slight reduction in the energy supply could cause major problems for U.S. agriculture. Because of that, and the possibility that too many chemicals could eventually harm the environment, researchers are on the lookout for ways to reduce pesticide use.

One way is proper pest management. In cases where pest management has been poor, pesticide use could be cut by half.

Another way to dent pesticide use is through improved application methods. Estimates indicate that with present systems, less than 5 percent of insecticide and fungicide sprays hit their intended targets.

Research might change the recipe. Research is also being aimed at chang-

ing the ingredients in pesticides. While most of them are petroleum based, scientists think they may be able to use water to carry the active ingredients, but more experiments are needed.

Even though efforts are underway to improve pesticides and their applications, scientists recognize it's hardly practical to do away with them entirely. Efficient pesticide use will remain essential to the maintenance of our food and fiber output, at least for the next few decades.

[Based on the speech, "Pesticides and Energy Utilization," by John H. Berry, National Economic Analysis Division, presented at the American Association for the Advancement of Science Meeting, Washington, D.C., February 17, 1978.]

A System for Fighting Pests

The cost of using pesticides may go far beyond mere money, and USDA is moving to shave that cost.

Last December, Secretary Bob Bergland announced a new integrated pest management (IPM) policy, meant to take a more even-handed approach to pest control, favoring neither an all-chemical nor an all-natural approach.

IPM recognizes the partnership between chemical and biological or natural controls used to keep pest populations below those that could cause economic injury. IPM does not seek to eradicate pests.

It uses chemicals against pests, in a manner compatible with natural controls. Among other methods, some insects that are natural predators of offending insects are used to hold down bug populations.

Moreover, scientists have found that

some pests actually build up immunities to certain pesticides, frustrating eradication efforts.

Bergland emphasized that USDA is not abandoning chemical pesticides. On the contrary, he pointed out, a good IPM program uses biological controls in conjunction with selected chemicals. And some experts point out that with IPM, the use of certain chemicals may even increase.

The modern farmer, Bergland said, is highly dependent on chemicals. Hundreds of them are used to boost productivity, protect crops, and slash labor costs. But, Bergland said, not enough thought has been given to eventual consequences of adding large quantities of chemicals to the environment.

Some experts argue, for example, that many chemicals do not "break

down"—decompose—after use; they remain on the plants or insects they touch, and may be ingested by people or livestock.

Also, entomologists—experts on insects—say large amounts of pesticides could disrupt the balance of nature, to the possible detriment of wildlife and humans.

IPM isn't a new program, just a relatively new term. Many of the pest control methods have been used in some degree for years. But the new USDA policy will give added research effort to IPM. Currently, leading States in developing programs are Texas and California, and cotton is the crop most often receiving IPM treatment.

[Based on special material from Donald L. Vogelsang, Cooperative Marketing and Purchasing Division.]

Commodity Profile:

The Popular Salad Fruit

The love affair of Americans for fresh tomatoes goes on, as people eat nearly 13 pounds of them each year.

Consumption patterns haven't changed much since the early 1960's, ranging from a low of 11.4 pounds per person in 1971—when supplies were tight after an especially rugged Florida winter—to a high of 12.7 pounds in 1976.

Totals for 1977 probably showed a decline because of the 1977 Florida freeze and the resulting squeeze on supplies.

Whether Florida has a good or a bad year is a bellwether for the fresh market tomato industry. That State turns out about a third of the domestic production in most years, accounting for nearly all winter tomatoes, and almost two-thirds of the spring crop.

During the summer, though, California reigns as tomato king, when Florida isn't even among the top 20 States.

Popular in all States. Moreover, between June and October, tomatoes are produced in nearly every State. Besides the commercial output, the tomato is the number 1 home garden vegetable (but it's impossible to tell just how much is produced in U.S. backyards).

So California has pretty stiff home competition for its commercial tomatoes, while Florida has to contend with Mexico during the winter.

That competition from south of the border is quite strong. During the first half of the year, Mexican tomatoes account for about half the domestic fresh supply in most years.

In years of light Florida winter-spring output, Mexican imports bulge. They hit 66 percent of the total in 1976/77, when the big freeze slashed Florida winter-spring output 31 percent.

Less volatile weather. This weather problem is a major reason the Mexican producers can compete. Weather there doesn't change as much from year to year, so output is much more predictable.

Another advantage for Mexican production is cheaper labor, compared with Florida.

But Florida producers save money by not having to transport the fruit as far, and because U.S. producers have no import tariffs to pay.

U.S. producers are working to maintain an edge in the race with Mexico in future years, as automation is developed for harvesting.

Even ripening. Chemicals are being experimented with that cause most of the fruit to ripen at the same time. New varieties of fruit might help, too. Once

simultaneous ripening can be developed, an automatic harvester is right around the corner.

One tough nut to crack has been damage to the fruit. Tomatoes bruise and cut rather easily, and the riper they are when harvested, the greater the chance damage will occur. One study in California in 1974—and little has changed since then—indicated about half the tomatoes harvested were discarded before they got to retail because of damage in the fields and packing houses.

Producers are winning this battle, though, and tomatoes will likely continue to brighten the American dinner table year round.

[Based on special material from Charles W. Porter, Commodity Economics Division.]

COMMODITY PROFILE: TOMATOES FOR FRESH MARKET

Production: 19.7 million cwt. in 1977, down 2.1 million from 1976

Value: \$414.3 million in 1977, down \$2.6 million from 1976

Imports: About one-half of the winter/spring supply has been coming from Mexico in most years, a figure equal to 15-20 percent of total annual U.S. production.

Trends: U.S. producers may be able to expand production and improve profitability by mechanizing the harvesting process in the next decade.

Recent Publications

Single copies of the publications listed here are available free from *Farm Index, Economics, Statistics, and Cooperatives Service*, Rm. 252-GHI, 500 12th St. S.W., U.S. Department of Agriculture, Washington, D.C. 20250. However, publications indicated by (*) may be obtained only by writing to the experiment station or university. For addresses, see July and December issues of *Farm Index*.

USSR Agricultural Situation, Review of 1977 and Outlook for 1978. Centrally Planned Countries Program Area, Foreign Demand and Competition Division. Supplement 1 to WAS-15.

The Soviet agricultural output was for many commodities off the mark, as far as the Soviets were concerned in 1977. Grains and sugarbeets were both down from expectations, although cotton, oilseed, and fruit crops output was improved. Livestock inventories were improved over 1977, and meat output last year was up 9 percent over 1976. Altogether, the Soviets overcame adverse weather in 1977 to boost the gross value of agricultural output by 3 percent.

Food Consumption, Prices, and Expenditures. National Economic Analysis Division. AER-138.

This supplement revises and updates through 1976 the statistical information contained in the main report, issued in July 1968. The figures in this book come from not only ESCS, but the U.S. Departments of Commerce and Labor, as well.

Canadian Feed Grain Policy. C. E. Bray, Foreign Demand and Competition Division. FAER-144.

The competition position of U.S.-grown corn in eastern Canada may have been changed by switches in Canadian policy that were made in 1976. One effect of the changes has been to curtail the U.S.'s share of feed grains imported to Canada—they were 23 percent in 1975/76, but slipped to about 10 percent the next year.

Government's Role in Pricing Fluid Milk in the United States. Charles N. Shaw, Commodity Economics Division, and S. G. Levine, Agricultural Marketing Service. AER-397.

More than 95 percent of all fluid-grade milk is priced under State control laws or Federal Marketing Orders. This report goes back to the beginning of these governmental programs in the 1930's, and discusses current price control methods, the extent of trade practice regulation, milk promotional activities, and legislation and litigation in effect since 1971.

A History of Sugar Marketing Through 1974. Roy A. Ballinger, Commodity Economics Division. AER-382.

Sugar production dates back to ancient India, more than 2,000 years ago, and sugar cane was among the first commercial commodities shipped out of the New World. Subsequently, sugar was the first commodity for which Congress imposed an import duty, shortly after adoption of the U.S. Constitution. Originally meant to raise revenue for the Government, such duties and other programs today protect the industry in this country from some foreign competition. This report traces all these developments in the marketing of sugar and other sweeteners.

Farm Real Estate Market Developments. Larry A. Walker and John F. Jones, National Economic Analysis Division. Supplement No. 2 to CD-82.

Farmland values continued rising last year. They jumped another 9 percent for the year ending February 1, 1978; that raises the average price for an acre of U.S. farmland to \$490. This boost, however, is at a slower rate than previous years, even though the market is still considered strong. Details of land prices by States and regions are listed.

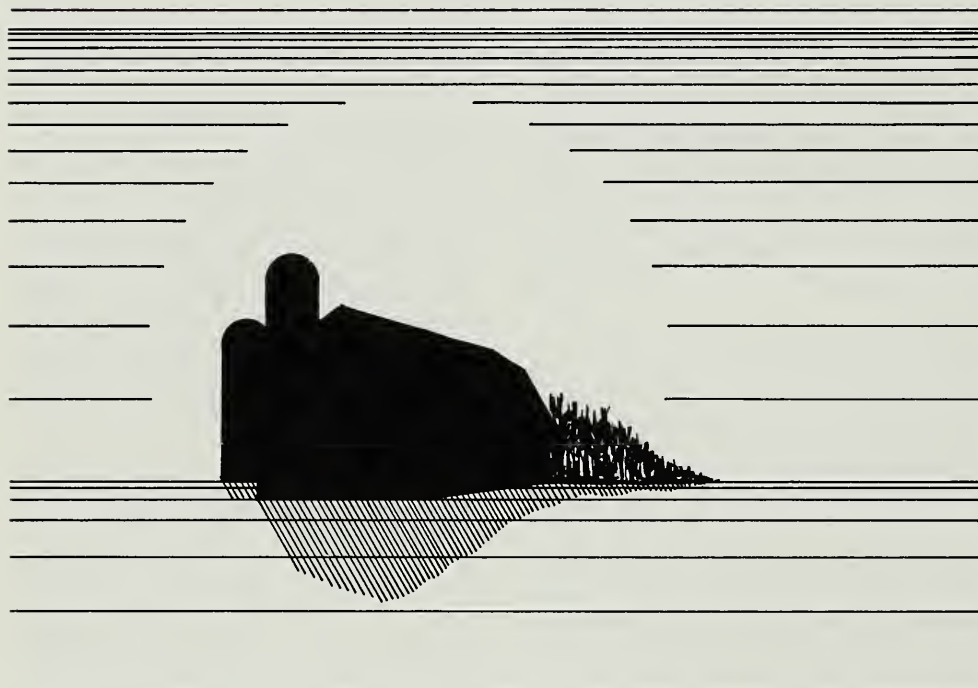
Costs of Producing Selected Crops in the United States—1976, 1977, and Projections for 1978. Agricultural Policy Analysis program area, Commodity Economics Division. Committee Print issued March 31, 1978, by the U.S. Senate Committee on Agriculture, Nutrition, and Forestry.

This is the third in a series of annual reports detailing the latest information on costs of production for selected crops. Final cost estimates are presented for 1976, preliminary estimates for 1977, and projected production costs for 1978.

Factors Affecting Imports of Grains, Oilseeds, and Oilseed Products in Iran. Dyaa K. Abdou and Arnold A. Paulson, Iowa State University under cooperative agreement with ESCS. FAER-145.

This publication is one of a series of foreign market studies conducted by the Foreign Demand and Competition Division. They focus on countries that are major markets for U.S. agricultural exports and on countries whose farm exports compete with U.S. farm exports. Among the facts in this book: Despite Iran's efforts to attain self-sufficiency in food production, the country is moving toward greater reliance on imports.

Picture Brightens for Farm Ledgers



They're not out of the woods yet, but many farmers have found the traveling a little easier this year down the financial path.

Farm prices have been climbing for most products since harvest last fall. One result has been an update in economists' forecasts of farm income and retail food prices.

The experts project that net farm income will average about \$24 billion at a seasonally adjusted annual rate for the first three quarters of 1978, compared with about \$20 billion for the same period of 1977.

Food prices will probably average 6-8 percent higher this year; last fall, a more modest rise of 4-6 percent was projected.

Slashed by inflation. After adjusting for inflation, net farm income in 1977 was the lowest since the nadir of the Depression. During 1977, total net was \$21.3 billion in current dollars, but only

\$11.3 billion in 1967 dollars. However, because of the drop in farm numbers, average net income per farm in 1967 dollars was about where it had been in the late 1960's.

Farmers have a long way to go to meet the income earned in 1973, when it peaked at the record high of \$33 billion (\$25 billion in 1967 dollars). The 1977 Farm Act and the Administration initiatives announced on March 29 will aid many crop producers this year. Many livestock producers appear headed for the best year since the early 1970's.

Farm prices in March 1978 were up about 15 percent over the season-low levels of last fall. And, they were 5 percent above year-earlier levels. The lion's share of the improvement went to meat animals.

Fewer farrowings. Retail pork prices were up about 11 percent from a year

ago in the first quarter. Production has been generally smaller than anticipated, and farrowing indications show it'll remain only slightly above a year earlier.

Hog producers had indicated they'd farrow 13 percent more hogs in December 1977-February 1978 than a year earlier. But they actually farrowed about 1 percent fewer sows.

Harsh weather, reports of widespread disease, and sows aborting at a high rate played havoc with producers' plans. One result of all this was a tight market for live hogs.

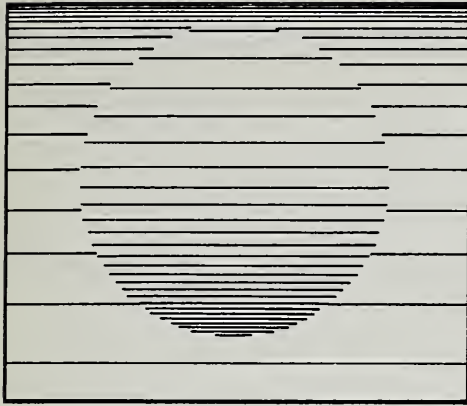
Market prices of barrows and gilts shot up to over \$50 per cwt. early this year, and they might average \$46-\$48 for the year. That compares with the 1977 average of \$41.

Production gains slightly. Indications from producers so far are for about the same number of farrowings this March-August as a year earlier. That could mean a 2-3 percent gain in pork production in 1978, compared with a 10-percent rise that had been anticipated.

Meat markets haven't been overflowing with beef, either. Producers have been sharply cutting back the cattle herd for the past 3 years, and this liquidation is being felt. The inventory of cattle and calves peaked at 132 million head in January 1975, but it was reduced to 116 million by the start of 1978.

Beef production this year might total 3-5 percent less than 1977, and prices for Choice steers at Omaha may average in the high \$40-per-cwt. range. Third quarter cattle prices this year might be \$49-\$51; they were just over \$40 a year ago.

The story for poultry is a bit different, but prices are still higher than earlier expected.



Demand for chicken. Poultry production may expand 6 to 8 percent this year, but demand for the birds is stronger than ever. That's because firm prices for one meat tend to bolster the prices of others.

The relationship between poultry and pork prices is particularly clear. With pork prices looking robust this year, economists anticipate that prices for broilers could rise 2-4 cents a pound over the year before.

But meat products aren't the only ones with higher price tags at the farm gate. Prices of many crop products have also strengthened some since last fall. The vigor of prices is partly seasonal in

nature, but is also related to the reduced soybean crop in Brazil, as well as Government price supporting actions.

Of course, there are two sides to the price coin. If feed prices go up, surgery is done to meat producers' ledgers.

Production costs. Higher expenses for all farmers continue to be a problem. Production expenses during the first 3 quarters of 1978 may be up some 8-9 percent from a year ago.

Consumers may react to higher retail prices, but they probably won't eat less. They'll probably change the mix of what they eat, instead.

For example, if beef and pork prices remain stronger than poultry prices, the

demand for broilers may pick up even more, and cheese consumption could be bolstered.

Although retail food prices are pushing up, consumers are able to choose what they eat from an enormous range of alternatives compared with the situation in many countries. And prices for some items are down.

Coffee, for instance, slipped over the winter, as Brazil's coffee output slowly recovered from the devastating freeze of 1975.

Egg drops. Likewise, egg prices have dipped. Early this year, retail prices for eggs were running about 82 cents a

Federal Farm Actions Spark Incomes

New Government programs should intensify already-brightening farm incomes.

Vice-president Walter Mondale and USDA Secretary Bob Bergland announced these actions recently.

- The ceiling on the farmer-held wheat and feed grain reserve is lifted. It was 35 million tons. This reserve will be used to remove any excess 1978-crop production.

- Interest charges on loans in the farmer-held reserve are waived after the commodity is held for 1 year.

- Producers who participate in the wheat set-aside can receive payments for grazing out wheat, or by harvesting hay on a share of their planted acreage.

The payment will be either 50 cents a bushel (based on normal production) or the deficiency payment, whichever is larger. Acreage in this program is limited to 50 acres or 40 percent of planted acreage, whichever is larger.

- The loan rate on 1978-crop soybeans is bumped \$1 over the 1977-crop rate, to \$4.50 a bushel.

- Cotton producers who set aside 10 percent of their planted acres may receive payments of 2 cents a pound, based on normal production.

- The loan rate and target prices for rice are tentatively pegged at \$6.40 and \$8.53 per cwt., respectively. No set-aside program for 1978-crop rice will be established.

Two other proposals require approval of Congress. An Economic Emergency Loan Program would open up credit for farmers and ranchers in financial trouble.

And, an international Emergency Wheat Reserve would allow the Government to buy and store up to 220 million bushels of wheat, earmarked for sale or donation in case of food emergencies abroad.

Bergland said these steps would add

spark to farm incomes, without putting a serious dent in consumers' pocket-books.

Value of production would be pepped up, from the earlier 1978/79 estimate of \$34-\$37 billion, to \$37-\$38 billion with the new Federal programs.

The effect on farm incomes should be stimulating. Net farm income during the first 3 quarters of 1978 is estimated at an annual rate of about \$24 billion, compared with the 1977 \$20 billion level.

Higher farm prices this spring have eased cash flow and credit problems for many producers, and the new programs should enhance the process, bringing another \$3-\$4 billion to grain producers.

But consumers' grocery bills, Bergland said, won't show much change. He said retail prices of food will not be measurably affected by the latest Government actions.

dozen, almost 20 cents below year-ago levels.

This year's food price increases will be only about half those of a few years ago. Prices of food rose around 14 percent each year in both 1973 and 1974. They've settled down to single-digit

rises since then; they were up about 6 percent last year.

All the unknowns—such as the Nation's economy and this summer's weather effects on crops and livestock—aside, it looks like food price gains may ease in the second half of 1978.

By the end of the year—not accounting for possible further policy actions to boost farm prices—food prices could be about stable.

[Based on special material from Robert R. Miller, National Economic Analysis Division.]

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Economic Trends

¹ Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. ² Average annual quantities of farm food products purchased by urban wage earner and clericalworker households (including those of single workers living alone) in 1959-61—estimated monthly. ³ Annual and quarterly data are on 50-State basis. ⁴ Annual rates seasonally adjusted fourth quarter. ⁵ Seasonally adjusted. ⁶ As of March 1, 1967. ⁷ As of November 1, 1977.

Source: U.S. Dept. of Agriculture (Agricultural Prices, Foreign Agricultural Trade, and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report, and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale and Consumer Price Index).

Item	Unit or Base Period	1967	1977 Year	1977 Feb.	1977 Dec.	1978 Jan.	1978 Feb.
Prices:							
Prices received by farmers	1967=100	—	183	186	181	186	193
Crops	1967=100	—	193	202	183	188	190
Livestock and products	1967=100	—	175	174	180	185	196
Prices paid, interest, taxes, and wage rates	1967=100	—	202	200	203	209	211
Prices paid (living and production)	1967=100	—	197	194	198	201	203
Production items	1967=100	—	200	199	199	203	206
Ratio ¹	1967=100	—	91	93	89	89	91
Wholesale prices, all commodities	1967=100	—	194.2	190.2	198.2	199.9	202.0
Industrial commodities	1967=100	—	195.1	190.1	200.0	201.5	202.8
Farm products	1967=100	—	192.5	199.1	188.3	192.2	198.9
Processed foods and feeds	1967=100	—	186.1	181.9	189.3	191.3	194.6
Consumer price index, all items	1967=100	—	181.5	177.1	186.1	186.9	188.1
Food	1967=100	—	192.2	187.7	196.3	198.2	201.3
Farm Food Market Basket: ²							
Retail cost	1967=100	—	179.2	178.6	181.8	184.2	188.1
Farm value	1967=100	—	179.1	181.0	178.7	186.0	190.8
Farm-retail spread	1967=100	—	179.3	177.1	183.8	183.0	186.4
Farmers' share of retail cost	Percent	—	38.8	39.3	38.1	39.2	39.3
Farm Income: ³							
Volume of farm marketings	1967=100	—	124	104	139	133	101
Cash receipts from farm marketings	Million dollars	—	95,025	6,825	8,853	8,807	6,900
Crops	Million dollars	—	47,572	3,179	4,725	4,877	2,900
Livestock and products	Million dollars	—	47,453	3,646	4,128	3,930	4,000
Realized gross income ⁴	Billion dollars	—	106.1	—	110.0	—	—
Farm production expenses ⁴	Billion dollars	—	85.7	—	88.5	—	—
Realized net income ⁴	Billion dollars	—	20.4	—	21.5	—	—
Agricultural Trade:							
Agricultural exports	Million dollars	6,380	22,997	2,045.9	2,323.9	1,937.7	2,067.9
Agricultural imports	Million dollars	4,452	10,990	1,127.2	1,284.7	1,246.7	1,222.2
Land Values:							
Average value per acre	Dollars	⁶ 168	—	450	⁷ 472	—	490
Total value of farm real estate	Billion dollars	⁶ 182	—	482	⁷ 506	—	527
Gross National Product: ⁴							
Consumption	Billion dollars	796.3	1,889.6	—	1,961.8	—	—
Investment	Billion dollars	490.4	1,211.2	—	1,259.5	—	—
Government expenditures	Billion dollars	120.8	294.2	—	306.7	—	—
Net exports	Billion dollars	180.2	395.0	—	413.8	—	—
Income and Spending: ⁵	Billion dollars	4.9	-10.9	—	-18.2	—	—
Personal income, annual rate	Billion dollars	626.6	1,536.7	1,477.0	1,622.7	1,625.9	1,634.1
Total retail sales, monthly rate	Billion dollars	24.4	58.9	57.3	62.1	59.7	60.1
Retail sales of food group, monthly rate	Billion dollars	5.8	13.0	12.6	13.4	13.6	13.7
Employment and Wages: ⁵							
Total civilian employment	Millions	74.4	90.5	89.0	92.6	92.9	93.0
Agricultural	Millions	3.8	3.2	3.2	3.3	3.4	3.2
Rate of unemployment	Percent	3.8	7.0	7.6	6.4	6.3	6.1
Workweek in manufacturing	Hours	40.6	40.3	40.3	40.5	39.6	39.9
Hourly earnings in manufacturing, unadjusted	Dollars	2.83	5.63	5.43	5.88	5.92	5.92
Industrial Production: ⁵							
1967=100	—	—	137.0	133.2	139.6	138.5	139.2
Manufacturers' Shipments and Inventories: ⁵							
Total shipments, monthly rate	Million dollars	46,487	110,612	106,133	116,929	113,664	—
Total inventories, book value end of month	Million dollars	84,527	176,720	168,449	176,720	177,469	—
Total new orders, monthly rate	Million dollars	47,062	112,169	106,575	121,566	117,223	—

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